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GEORGE E. DARBY P.O. BOX 893010 MILILANI, HI 96789-3010			ZHEN, LI B	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/764,028	BROOKS ET AL.
	Examiner	Art Unit
	Li B. Zhen	2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 March 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-20 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>01/08/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-20 are pending in the application.

Response to Amendment

2. The affidavit filed on 04/12/2007 under 37 CFR 1.131 has been considered but is ineffective to overcome the U.S. Patent Application Publication No. 2003/0154112 to Neiman et al. reference.

The evidence submitted is insufficient to establish a conception of the invention prior to the effective date of the Neiman et al. reference. While conception is the mental part of the inventive act, it must be capable of proof, such as by demonstrative evidence or by a complete disclosure to another. Conception is more than a vague idea of how to solve a problem. The requisite means themselves and their interaction must also be comprehended. See *Mergenthaler v. Scudder*, 1897 C.D. 724, 81 O.G. 1417 (D.C. Cir. 1897). In section (3) of the affidavit filed on 04/12/2007, applicant referred to Exhibit B for the earliest notes of conceptualization. However, it is noted that Exhibit B is not on the file and examiner requests resubmission of the affidavit including all exhibits so that the affidavit can be properly considered.

The evidence submitted also did not provide any information to establish diligence from a date prior to the date of reduction to practice of the Neiman et al. reference to either a constructive reduction to practice or an actual reduction to practice.

3. The amendment to the specification [p. 24, paragraph 80] to remove the hyperlink overcomes the previous object to the specification.
4. The amendment to the claims 1 and 6 overcomes the previous object to the claims.
5. The amendment filed 03/29/2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the features added to paragraphs 19, 20, 62, 66, 68, 71, 74, 75, 82, 89, 90, 91, 95, 104, 113, 119, 123, 125, 127, 131 and 146. Applicant submitted that the features added have been copied from later parts of the Description and moved forward to improve clarity. Examiner disagrees and notes that the newly added features are not found in the original specification. For example, the original specification does not disclose "Boolean state of evfields(s)". In reply to this Office Action, applicant is required to point to the specific citations in the original specification that supports the new features added to the specification or cancel the new matter in the reply to this Office Action.

Response to Arguments

6. Applicant's arguments filed 03/29/2007 have been fully considered but they are not persuasive. In response to the Non-Final Office Action dated 12/29/2006, applicant argues:

- (1) The amendment to the specification to read: "A queueing system is software running on computer resources" overcomes the 35 U.S.C. 101 rejection to claims 11 – 20 [p. 29];
- (2) The Declaration of Anthony Higa disqualifies the Nieman reference as prior art [p. 31];
- (3) Neiman does not disclose how his scheduling system operates to match jobs and nodes [pp. 31 – 32 and 39];
- (4) Neiman does not disclose how heterogenous platforms communicate over a network without building unique messages for the API on each type of user and worker platform [p. 32];
- (5) Neiman and Barroux do not disclose how their scheduling system handles long-duration jobs or scales up for short-duration jobs [pp. 32 and 33];
- (6) Barroux discloses a true/false test, not a scheduling system that match jobs and workers, and does not handle job failures; Barroux, therefore, cannot render the EDQS queuing system obvious [p. 33];
- (7) Neiman does not alias worker modules or anything else. Neiman lacks the structural elements of nodes and workers aliased to nodes, as defined in the EDQS invention [p. 36];

- (8) Neiman does not address worker attributes and capabilities, or whether jobs or workers are sorted, filtered, or otherwise matched [p. 36];
- (9) Neiman does not build an eligible worker list [pp. 36 and 39];
- (10) Removing the worker from the "service allocated" is not removing the worker from the eligible worker list because Neiman does not construct an eligible worker list [p. 36];
- (11) Neiman does not disclose how to "match" jobs with workers, and therefore cannot count how many times a match has been attempted or whether a system-defined limit has been reached [pp. 36, 37 and 39];
- (12) The EDQS check environment process compares the amount and type of resources (paragraphs 66 and 67 of the Application) and ranks workers. Neiman lacks this key structural element of the EDQS invention [pp. 37, 39-40];
- (13) The terms, or function, of "sort" and "rank" are not used or disclosed in Nieman, and therefore Nieman cannot anticipate an invention that has sorting and ranking as key structural elements [p. 40];
- (14) The term "event" technically means the event defined in the relevant evtag [p. 41, 44];
- (15) Scheduling according to time of day, if there are no prior reservations for that time of day is not EDQS messaging architecture, EDQS event-driven dispatch, EDQS event/callback architecture, EDQS job type data architecture, or the EDQS domain specific language [pp. 41, 42, 43, 44];
- (16) Neiman nor Barroux disclose a job type element [p. 42];

- (17) Neither Nieman nor Barroux describe triggers, an event/callback, or an equivalent, as defined in the Application (paragraph 102 – 1401) [pp. 43-44];
- (18) There is no express or implied suggestion or motivation in the cited references; the Office has not identified any express or implied suggestion or motivation to combine the references and has failed to meet the requirements of a *prima facie* showing of obviousness [p. 46].

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 11 – 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 11 recites a queuing system comprising a client, supervisor, work, and a component selected from the group comprising EDQS messaging architecture, EDQS event-driven dispatch, EDQS event/callback architecture, EDQS job type data architecture, and the EDQS domain specific language. All the recited elements appear to be software only and the specification discloses the queuing system as software [p. 1, lines 3 – 5]. Therefore, claim 11 is drawn to a system comprised entirely of software and not tangibly embodied in a manner so as to be executable. Thus, claim 11 is directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. **Claims 1 – 10 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 2003/0154112 to Neiman et al. [hereinafter Neiman], cited in the previous office action.**

11. As to claim 1, Neiman teaches a method of job dispatch [allocate an appropriate amount of computing resources to particular jobs; p. 7, paragraph 0075] in a queuing system [queue 500; p. 7, paragraph 0078], comprising:

aliasing each worker in a plurality of workers to a same or different node [deploying the worker modules 195-1 to 195-N on the compute backbone 300; p. 3, paragraph 0042] in a tree hierarchy [p. 13, paragraph 0131];

when a job is submitted for processing [a job 182 that requests the compute backbone 300 to perform a computation using a worker 155 contained in a worker module 195; p. 3, paragraph 0042], filtering the workers to produce an unsorted, eligible worker list [meta-information supplied by a job 182 may identify more than one worker 155-1 to 155-N; p. 3, paragraph 0044];

searching the eligible worker list to match a job with a worker [schedules the jobs 182-1 to 182-N on available node computers 800-1 to 800-N; pp. 11 - 12, paragraph 0122] by comparing a node weight [divide the resources between such users 20-1 to 20-N based on a weighted average of the priority level and other specifics of each request 2007-1 to 2007-N; p. 8, paragraph 0086], and optionally priority, of the job with the nodes [jobs 182 may have meta-information associated with them (e.g., priority and specific resource requirements); p. 11, paragraph 0118];

selecting a node for the job based optimal comparison [determines availability of the node computers 800-1 to 800-N (step 1630), and schedules the jobs 182-1 to 182-N on available node computers 800-1 to 800-N; pp. 11-12, paragraph 0122];

reserving a worker aliased to the selected node [processing of a new reservation 2005 and/or a new request 2007; p. 15, paragraph 0151]; and

dispatching the job to the reserved worker [scheduler 600 may then send the job 182 to an available node computer 800; p. 13, paragraph 0134].

12. As to claim 2, Neiman teaches if the reserved worker fails to process the job, the worker is removed from the eligible worker list [a node computer 800 fails or becomes otherwise unavailable for processing, the service manager 700 detects the unavailability of that node computer 800 and removes the node computer 800 from the service allocated; p. 9, paragraph 0093], and another iteration of the method of claim 1 proceeds, starting from the third step of claim 1 [re-queue the scheduling requests

made previously (and/or being made currently) from the failed or unavailable node computer 800-1 to another available node computer 800-2; p. 9, paragraph 0093].

13. As to claim 3, Neiman teaches each worker reserved in successive iterations of claim 2 fails to process the job, and the number of failures cumulates to a system-defined limit [a job 182 terminates during computation (e.g., by reassignment of the node computer to a new service (step 1830) or by failure of the node computer 800); p. 13, paragraph 0134], then the eligible worker list is sorted, and the job is dispatched to the first ranked worker on the sorted worker list [scheduler 600 may send the job 182 to another available node computer 800-2 (step 1835); p. 13, paragraph 0134].

14. As to claim 4, Neiman teaches a check environment process associated with the job executes on the reserved worker after the step of dispatching the job to the reserved worker which process compares job attributes with worker attributes [allocate an appropriate amount of computing resources to particular jobs 182-1 to 182-N based on (1) the amount of resources allocated to a particular service and (2) the resource requirements of the jobs 182-1 to 182-N; p. 7, paragraph 0075], and if the job attributes do not acceptably match the worker attributes, the worker rejects the job, the worker is removed from the eligible worker list, and another iteration of the method of claim 1 proceeds from the third step of claim 1 [a node computer 800 fails or becomes otherwise unavailable for processing, the service manager 700 detects the unavailability

of that node computer 800 and removes the node computer 800 from the service allocated; p. 9, paragraph 0093].

15. As to claim 5, Neiman teaches each worker reserved in successive iterations of claim 3 rejects the job [re-queue the scheduling requests made previously (and/or being made currently) from the failed or unavailable node computer 800-1 to another available node computer 800-2; p. 9, paragraph 0093], and the number of rejections cumulates to a system-defined limit [a job 182 terminates during computation (e.g., by reassignment of the node computer to a new service (step 1830) or by failure of the node computer 800); p. 13, paragraph 0134], then the eligible worker list is sorted, and the job is dispatched to the first ranked worker on the sorted worker list [scheduler 600 may send the job 182 to another available node computer 800-2 (step 1835); p. 13, paragraph 0134].

16. As to claim 6, Neiman teaches a method of job dispatch [allocate an appropriate amount of computing resources to particular jobs; p. 7, paragraph 0075] in a queuing system [queue 500; p. 7, paragraph 0078], comprising:

aliasing each worker in a plurality of workers to a same or different node [deploying the worker modules 195-1 to 195-N on the compute backbone 300; p. 3, paragraph 0042] in a tree hierarchy [p. 13, paragraph 0131];

when a worker becomes available for processing a job, filtering jobs to produce an unsorted, eligible job list [schedule jobs 182-1 to 182-N (which are associated with a

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particular calling application 180) with a worker 155 that resides on an available node

computer 800 of the compute backbone 300; p. 4, paragraph 0054];

searching the eligible job list to match a job with a worker [schedules the jobs 182-1 to 182-N on available node computers 800-1 to 800-N; pp. 11 - 12, paragraph 0122] by comparing a node weight [divide the resources between such users 20-1 to 20-N based on a weighted average of the priority level and other specifics of each request 2007-1 to 2007-N; p. 8, paragraph 0086], and optionally priority, of the job with the node to which the worker is aliased [jobs 182 may have meta-information associated with them (e.g., priority and specific resource requirements); p. 11, paragraph 0118];

selecting a job for the worker's node based optimal comparison [determines availability of the node computers 800-1 to 800-N (step 1630), and schedules the jobs 182-1 to 182-N on available node computers 800-1 to 800-N; pp. 11-12, paragraph 0122];

reserving the worker [processing of a new reservation 2005 and/or a new request 2007; p. 15, paragraph 0151]; and

dispatching the job to the reserved worker [scheduler 600 may then send the job 182 to an available node computer 800; p. 13, paragraph 0134].

17. As to claim 7, Neiman teaches if the reserved worker fails to process the job, the job is removed from the eligible job list [p. 9, paragraph 0093], and another iteration of

the method of claim 6 proceeds, starting from the third step of claim 6 [p. 9, paragraph 0093].

18. As to claim 8, Neiman teaches each job dispatched to the worker in successive iterations of claim 7 results in the worker's failure to process the job, and the number of failures cumulates to a system-defined limit [p. 13, paragraph 0134], then the eligible, worker job is sorted, and the first ranked job on the sorted job list is dispatched to the worker [p. 13, paragraph 0134].

19. As to claim 9, Neiman teaches a check environment process associated with the job executes on the reserved worker after the step of dispatching the job to the reserved worker, which process compares job attributes with worker attributes [p. 7, paragraph 0075], and if the job attributes do not acceptably match the worker attributes, the worker rejects the job, the job is removed from the eligible job list, and another iteration of the method of claim 6 proceeds from the third step of claim 6 [p. 9, paragraph 0093].

20. As to claim 10, Neiman teaches each job dispatched in successive iterations of claim 9 results in the worker's rejection of the job [p. 9, paragraph 0093], and the number of rejections cumulates to a system-defined limit [p. 13, paragraph 0134], then the job list is sorted, and the first ranked job on the sorted job list is dispatched to the worker [p. 13, paragraph 0134].

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

23. **Claims 11 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neiman in view of U.S. Patent No. 6,182,110 to Barroux [cited in the previous office action].**

24. As to claim 11, Neiman teaches a queuing system [queue 500; p. 7, paragraph 0078] comprising at least one client [client 183; p. 4, paragraph 0052], at least one supervisor [transaction manager 400; p. 4, paragraph 0051], and at least one worker [deploying the worker modules 195-1 to 195-N on the compute backbone 300; p. 3, paragraph 0042], together with network communications between each client and

supervisor and between each supervisor and worker [p. 4, paragraph 0051]. Neiman does not specifically disclose a component selected from the group comprising EDQS messaging architecture, EDQS event-driven dispatch, EDQS event/callback architecture, EDQS job type data architecture, and the EDQS domain specific language.

However Barroux teaches a task scheduling system [col. 4, lines 36 – 65] and a component selected from the group comprising EDQS messaging architecture, EDQS event-driven dispatch, EDQS event/callback architecture, EDQS job type data architecture, and the EDQS domain specific language [event handler 312 and dispatches tasks to task scheduler 302 according to elapsed time; col. 4, lines 36 – 65, col. 6, lines 36 – 45].

It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify the invention of Neiman to incorporate the feature of an EDQS event-driven dispatch as taught by Barroux because this allows a user to schedule node-specific tasks across the network without specifying particular times for each node [col. 1, lines 48 – 60 of Barroux].

25. As to claim 12, Neiman as modified teaches the job type data architecture comprises a job type element containing a descriptor datum [p. 3, paragraph 0045 of Neiman], an executor datum [identification of a particular worker; p. 3, paragraph 0044 of Neiman], a GUI name datum [p. 5, paragraph 0064 of Neiman], and icon datum [col. 7, lines 15 – 26 of Barroux], a commander datum [p. 6, paragraph 0071 of Neiman],

binding scripts [col. 14, lines 13 – 30 of Barroux], names of associated libraries [p. 3, paragraph 0042 of Neiman], and name of index file [col. 19, lines 25 – 33 of Barroux].

26. As to claim 13, Neiman teaches a job type directory that contains the job type element, together with code files identified in the job type element [p. 8, paragraph 0089].

27. As to claim 14, Neiman as modified teaches the messaging architecture uses messages written in the EDQS domain specific language [col. 4, lines 36 – 65, col. 6, lines 36 – 45 of Barroux].

28. As to claim 15, Neiman teaches the domain specific language uses a message generator that converts platform-specific commands into a data structure that can be interpreted by other types of platforms [pp. 5-6, paragraph 0066].

29. As to claim 16, Neiman as modified teaches the event/callback architecture is based on enabling triggers whenever predefined Boolean expressions of event states are true, which enabled triggers cause callback code to be executed by a supervisor [col. 4, lines 36 – 65, col. 6, lines 36 – 45 of Barroux].

30. As to claim 17, Neiman as modified teaches the callback code causes a job-driven dispatch [col. 4, lines 36 – 65, col. 6, lines 36 – 45 of Barroux].

31. As to claim 18, Neiman as modified teaches the callback code [col. 4, lines 36 – 65, col. 6, lines 36 – 45 of Barroux] causes a worker-driven dispatch [scheduler 600 may then send the job 182 to an available node computer 800; p. 13, paragraph 0134 of Neiman].
32. As to claim 19, Neiman as modified teaches the trigger evaluates Boolean expressions of event states of one or more jobs in a process group [col. 9, lines 52 – 65 of Barroux].
33. As to claim 20, Neiman as modified teaches the event/callback architecture uses evname, evtype, and evcontext variables to define an event [col. 6, lines 26 – 37 of Barroux].

CONTACT INFORMATION

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on 571-272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Li B. Zhen
Examiner
Art Unit 2194

LBZ



6/10/2007